



# EXERCISE V

Go as far as you can!

- 5.1** (Eliminating duplicates) Write a method to eliminate the duplicate values in the array using following method header:

```
public static int[] eliminateDuplicates(int[] numbers)
```

Write a test program that reads in ten integers, invokes the method, and displays the result. Here is the sample run of the program:

```
Enter ten numbers: 1 2 3 2 1 6 3 4 5 2 ↵ Enter
The distinct numbers are: 1 2 3 6 4 5
```

- 5.2** (Counting occurrence of numbers) Write a program that reads the integers between 1 and 100 and counts the occurrences of each. Assume the input ends with 0. Here is a sample run of the program:

```
Enter the integers between 1 and 100: 2 5 6 5 4 3 23
43 2 0 ↵ Enter
2 occurs 2 times
3 occurs 1 time
4 occurs 1 time
5 occurs 2 times
6 occurs 1 time
23 occurs 1 time
43 occurs 1 time
```

**5.3** (Identical arrays) Two arrays list1 and list2 are identical if they have the same contents. Write a method that returns true if list1 and list2 are identical, using the following header:

```
public static boolean equal(int[] list1, int[] list2)
```

Write a test program that prompts the user to enter two lists of integers and displays whether the two are identical. Here are the sample runs. Note that the first number in the input indicates the number of the elements in the list.

```
Enter list1: 5 2 5 6 6 1 ↵ Enter  
Enter list2: 5 5 2 6 1 6 ↵ Enter  
Two lists are identical
```

```
Enter list1: 5 5 5 6 6 1 ↵ Enter  
Enter list2: 5 2 5 6 1 6 ↵ Enter  
Two lists are not identical
```